

Remarks

Claim Objections Pursuant to 35 USC 112

Claims 3, 4, 6, 7, 9, 10, and 12 - 14 were objected to because certain informalities which have been responsively amended in each case.

Claim Rejections Pursuant to 35 USC § 112

Claim 15 was rejected as being indefinite because it is unclear what is meant by "(RTV)". Attached as to the foot of this amendment is a product specification sheet for RTV silicone elastomer, which is a brand name. The chemical name has been included in the amended claim.

Claim Rejections - 35 USC § 102

Claim 1 was rejected as anticipated by **Takebe et al.** U.S. Patent 5,906,871 (1999). **Takebe** was cited as teaching the formation of a ***latent image*** ***in*** a first substance on a substrate of a second substance having a surface tension different from a surface tension of the first substance. (See Abstract) The substrate can be plastic. (Column 4 lines 51-62) Examples of plastic material for the substrate were recited as including polyethylene, polypropylene, polystyrene, polycarbonate, poly(methyl methacrylate), poly(hydroxy ethyl methacrylate), acrylic resins, polyether sulfone, poly(vinylchloride), poly(vinylidene chloride), rayon, cellulose resins, nylons, fluorine resins, silicon resins, and copolymer hereof such as acrylonitrile-butadiene-styrene (ABS) resin or acrylonitrile-styrene (AS) resin. (Column 5 lines 1-10) The Examiner contends that this listing is

representative of the elastomeric material required by Applicant.

In **Takebe** a surface for latent images is formed on part of a substrate by a masking method or by a direct method. (Column 8 lines 16-18). In the masking method, a substrate is masked with another substance, a spot or film is formed of a third substance on an unmasked portion of the substrate and then the masking substance is removed. Examples of the masking substance including printing ink, photoresist film and plastic film having a hole. (Column 8 lines 19-24).

The Examiner admits that **Takebe** is silent with respect to teaching sputtering to form the masking layer or to teaching the microfabrication of structures in elastomeric material using semiconductor techniques, including inter alia RF plasma etching. Amended claim 1 is directed to an improvement in a method of microfabricating a three dimensional structure in elastomeric material and photolithographically fabricating the three dimensional structure in the elastomeric material using semiconductor fabricating procedures, including plasma sputtering deposition to photolithographically form masking layers by means of which the structure is microfabricated. Hence, claim 1 as amended, cannot be held to have each and every element thereof anticipated by **Takebe**.

Claim Rejections - 35 USC § 103

Claims 1, 14 and 15 were rejected as being obvious over **Takebe et al.** (U.S. Pat. 5,906,871). The Examiner admits that the differences between **Takebe** and the original claims was the use of polydimethylsilicone elastomer and vulcanizable (RTV) silicone elastomer. The Examiner contends that **Takebe** utilizes elastomeric substrates of plastic. The Examiner cites that the motivation

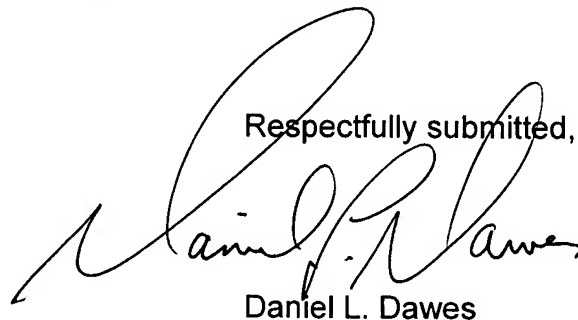
for utilizing polydimethylsilicone elastomer and vulcanizable (RTV) silicone elastomer is that these substances allow for providing a substrate for images that are free from deterioration over time. (Column 1 lines 38-43).

However, forming latent images in elastomeric material has no relevance to the claimed invention which is directed to microfabricating three dimensional structures in elastomeric material or how that microfabrication might be achieved. The motivation for using an image forming material does not at all suggest that how such same material can be handled as an object of micromachining in any particular way to successfully form three dimensional structures in it or out of it, particularly by using semiconductor fabrication techniques.

Claim 1 is further distinguished by using semiconductor fabricating procedures, including plasma sputtering deposition to form masking layers by means of which the structure is photolithographically microfabricated, which the Examiner admits as not motivated by **Takebe**. Claims 14 and 15 depend on claim 1 and are allowable therewith and for such additional limitations as included therein. New claims 21 – 25 depend directly or indirectly on claim 1 and are allowable therewith and for being directed to directional etching steps about which **Takebe** is silent.

The applicant respectfully requests advancement of the claims to issuance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Daniel L. Dawes", is written over the typed name. The signature is fluid and cursive, with a large loop at the beginning and end.

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